

# EU TYPE EXAMINATION CERTIFICATE

## Nr PL-MI002-1450DO0001

Instytut Nafty i Gazu – Państwowy Instytut Badawczy (INiG-PIB) being  
the notified body under the number 1450 for the Directive 2014/32/EU  
hereby states that the measuring instrument:

### Diaphragm gas meters

type: **UG G1,6 iSmart2, UG G2,5 iSmart2, UG G4 iSmart2, 2UG G6 iSmart2,  
UG G6 iSmart2, UG G10 iSmart2, UG G16 iSmart2, UG G25 iSmart2,  
UG G40 iSmart2, UG G65 iSmart2**

being  
manufactured by: **APATOR METRIX S.A.  
ul. Grunwaldzka 14  
83-110 Tczew, Polska**

in: **APATOR METRIX S.A.  
ul. Grunwaldzka 14  
83-110 Tczew, Polska**

meets the essential requirements covered by the Directive 2014/32/UE of The European Parliament  
and of the Council of 26<sup>th</sup> February 2014 on the harmonisation of the laws of the Member States  
relating to the making available on the market of measuring instruments (OJEU of 2014 L 96)  
on the basis of EU type examination according to Annex IV (MI-002) of Directive 2014/32/EU  
and at the same time the requirements of Regulation issued by Minister of Development  
of 2<sup>nd</sup> June 2016 on requirements for measuring instruments,  
Annex no. 2 (Polish Journal of Laws of 2016 item 815)

document of  
reference: **PN-EN 1359:2017-11 [EN 1359:2017]**

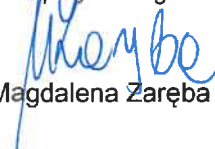
test reports: **6/GM/2019p, 8/GM/2020P, 48/GM/2020, 11/GM/2021, 12/GM/2021, 23/GM/2021,  
62/GM/2021, 6/GM/2022, 25/GM/2022, 33/GM/2022, 1/GM/2023, 3/GM/2023,  
7/GM/2023, 14/GM/2023, 15/GM/2023, 23/GM/2023, 30/GM/2023, 37/GM/2023,  
40/GM/2023, 45/GM/2023, 46/GM/2023, 52/GM/2023, 77/GM/2023, 80/GM/2023,  
2/GM/2024, 3/GM/2024, 13/GM/2024, 21/GM/2024, 24/GM/2024, 25/GM/2024,  
28/GM/2024, 32/GM/2024, 40/GM/2024, 2/GM/2025, 31/GM/2025, 33/GM/2025,  
47/GM/2025, 54/GM/2025, 59/GM/2025, 60/GM/2025, 61/GM/2025, 62/GM/2025,  
63/GM/2025, 64/GM/2025, 7/GM/2026**

issued by: Zespół Laboratoriów Badawczych Sieci, Instalacji i Urządzeń Gazowych  
Instytutu Nafty i Gazu – Państwowego Instytutu Badawczego

pages: **9**


certificate is valid  
until: **12<sup>th</sup> January 2033**

Certification Office  
Deputy Manager

  
Magdalena Zaręba

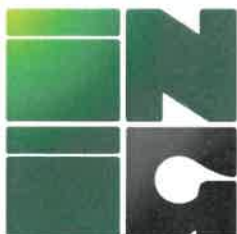


Director of Instytut Nafty i Gazu  
- Państwowy Instytut Badawczy

  
Jan Brożek

Kraków, 27-04-2026

10<sup>th</sup> issue, replaces 9<sup>th</sup> issue of 23-01-2026



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AC 010



## Appliance

### Diaphragm gas meters

#### Models

UG G1,6 iSmart2	V=1,2 dm <sup>3</sup>	
UG G2,5 iSmart2	V=1,2 dm <sup>3</sup>	
UG G4 iSmart2	V=1,2 dm <sup>3</sup> ;	V=2,2 dm <sup>3</sup>
2UG G6 iSmart2	V=2,2 dm <sup>3</sup>	
UG G6 iSmart2	V=2,4 dm <sup>3</sup>	
UG G10 iSmart2	V=5,6 dm <sup>3</sup>	
UG G16 iSmart2	V=5,6 dm <sup>3</sup>	
UG G25 iSmart2	V=11,2 dm <sup>3</sup>	
UG G40 iSmart2	V=16,8 dm <sup>3</sup>	
UG G65 iSmart2	V=22,4 dm <sup>3</sup>	

#### Design of the instrument

The gas meter consists of four main assemblies:

- measuring unit,
- housing,
- electronic index
- internal valve (optional).

#### Measuring unit

Consists of two measuring chambers containing diaphragms, a distribution channel and a timing mechanism comprising sliders, swinging levers and a mechanism generating an alternating magnetic field detected by Hall sensors.

#### Gas meter housing

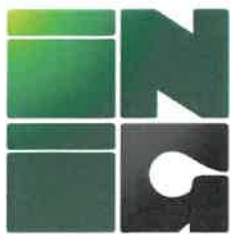
It consists of an upper and lower casing assembly connected tightly by a clamp.

A sleeve and an external magnet sub-assembly are embedded in the upper housing assembly.

#### Electronic index

The index has a diagnostic system and, in addition to volume measurement, supervises the gas meter in the following:

- interference detection (magnetic field, removing the index cover),
- valve status - closed/open,
- valve operation error,
- reverse flow detection,
- number of days until planned replacement if the battery,
- enables temperature correction of the volume,
- enables software update,
- enables displaying as default the uncorrected volume  $V_c$  or the corrected volume  $V_b$  (for gas meter UG G40 iSmart2 and UG G65 iSmart2 only  $V_c$ ).



### Gas valve

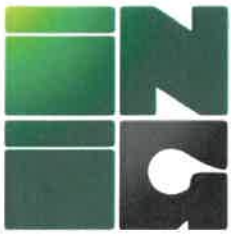
The gas meter can be optionally equipped with a built-in internal valve (except for the UG G10 iSmart2; UG G16 iSmart2; UG G25 iSmart2; UG G40 iSmart2 and UG G65 iSmart2).

The valve is controlled by a procedure ensuring safety level SIL2. The opening of the valve is preceded by a procedure that takes into account the filling of the system and monitors for potential uncontrolled gas leakage. If an abnormality is detected, the valve will remain closed.

All certified gas meters can be equipped with temperature volume correction (except for the UG G40 iSmart2 and UG G65 iSmart2).

### Technical data

Technical documentation - list of figures	
Gas meter	Fig No.
Gas meter UG1,2 iSmart2	SN0000I2.2VX
Gas meter UG2,2 iSmart2 in case UG-EN	SY0000I2.13X
Gas meter UG2,2 iSmart2 in case UG-MG	SY00MGI2.13X
Gas meter UG2,2 iSmart2 in case UG-NL	MM0000I2.22X
Gas meter UG2,2 iSmart2 in case UG-DE	MM0000I2.25X
Gas meter 2UG6 iSmart2	MN0000I2.XXX
Gas meter UG2,4 iSmart2 in case UG-FL2	MS0000iS2.0X
Gas meter UG G10/G16 iSmart2	MA00002.XX
Gas meter UG G25 iSmart2	MB0000I2.XX
Gas meter UG G40 iSmart2	HXX00iS2.XX
Gas meter UG G65 iSmart2	KXX00iS2.XX



Gas meter trade name	Gas meter size	Maximum flowrate $Q_{max}$ m <sup>3</sup> /h	Minimum flowrate $Q_{min}$ m <sup>3</sup> /h	Cyclic volume $V$ dm <sup>3</sup>
-	-			
UG G1,6	G1,6	2,5	0,016	1,2
UG G2,5	G2,5	4	0,016 or 0,025	1,2
UG G4	G4	6	0,016 (only 1,2 dm <sup>3</sup> ) or 0,025 (only 1,2 dm <sup>3</sup> ) or 0,04	1,2 or 2,2
2UG G6	G6	10	0,06	2,2
UG G6	G6	10	0,06	2,4
UG G10	G10	16	0,1	5,6
UG G16	G16	25	0,16	5,6
UG G25	G25	40	0,25	11,2
UG G40	G40	65	0,4	16,8
UG G65	G65	100	0,65	22,4

Case version	Distance between connections
<b><math>V = 1,2 \text{ dm}^3</math></b> (for gas meters UG G1,6; UG G2,5; UG G4)	
UG-DE	250 mm
UG-EN	0 mm or 130 mm or 152,4 (6") mm or 160 mm
UG-F	0 mm or 100 mm or 110 mm or 130 mm
UG-MG	130 mm or 152,4 (6") mm or 160 mm
UG-NL	220 mm
<b><math>V = 2,2 \text{ dm}^3</math></b> (for gas meters UG G4)	
UG-DE	250 mm
UG-EN	0 mm or 130 mm or 152,4 (6") mm or 160 mm
UG-MG	110 mm or 130 mm or 152,4 (6") mm or 160 mm
UG-NL	220 mm
<b><math>V = 2,2 \text{ dm}^3</math></b> (for gas meters 2UG G6)	
UG-DE	220 mm or 250 mm
UG-EN	0 mm or 130 mm or 152,4 mm (6") or 160 mm
UG-MG	130 mm or 152,4 mm (6") or 160 mm

*MX*



<b>V = 2,4 dm<sup>3</sup> (for gas meters UG G)</b>	
UG-FL2	0 mm
<b>V = 5,6 dm<sup>3</sup> (for gas meters UG G10; UG G16)</b>	
UG G10/16	0 mm or 152,4 (6") mm or 250 mm or 280 mm or 300 mm
<b>V = 11,2 dm<sup>3</sup> (for gas meters UG G25)</b>	
UG G25	280 mm or 335 mm or 400 mm
<b>V = 16,8 dm<sup>3</sup> (for gas meters UG G40)</b>	
UG G40	335 mm or 430 mm or 500 mm or 510 mm or 570 mm or 640 mm or 680 mm or 720 mm
<b>V = 22,4 dm<sup>3</sup> (for gas meters UG G65)</b>	
UG G65	335 mm or 430 mm or 500 mm or 510 mm or 570 mm or 640 mm or 680 mm or 720 mm

Gas meter class .....	1,5
Mechanical class .....	M1
Electromagnetic environment class ...	E1
Maximum operating pressure p <sub>max</sub> ....	50kPa (0,5bar)
Ambient temperature range t <sub>m</sub> .....	-25+55°C
Gas temperature range t <sub>g</sub> .....	-25+55°C
Storage temperature range t <sub>s</sub> .....	-25+60°C
Resistance to high ambient temperature	T (at 10kPa/0,1bar/ acc. EN 1359:2017)
Index measuring range .....	99999,9999 m <sup>3</sup>
Nominal cyclic volume V .....	999999,999 m <sup>3</sup> - for UG G10; UG G16; UG G25; UG G40; UG G65 iSmart2
Nominal size of connections .....	1,2 dm <sup>3</sup> or 2,2 dm <sup>3</sup> or 2,4 dm <sup>3</sup> or 5,6 dm <sup>3</sup> or 11,2 dm <sup>3</sup> or 16,8 dm <sup>3</sup> or 22,4 dm <sup>3</sup>
Membrane type .....	DN20 – DN50; DN65; DN80; DN100
Family of gases .....	EFFBE (401617P) or SMI (CSQ3)
Software version number /	EFFBE (401617P) - for UG G10/16 iSmart2 & UG G25 iSmart2
Legally relevant software checksum..	SMI (CSQ3) – for UG G40 iSmart2, UG G65 iSmart2
	Gaseous fuels: family 1, 2 & 3 acc. to EN 437
	02.06.XX.YY* / 1e6477907680a926bbb82243bb577079
	04.08.XX.YY* / cb9e07c3371d17a787d584b620161a01
	04.09.XX.YY* / 568225b0d1d228e51c03c4129a7ae330 (regarding the change of the algorithm for determining the instantaneous flow)
	06.10.XX.YY* / 7703fde17eb8ca2eb5b19dbf0768a645

\* The software identifier is easily available on the meter's display under section 'Meter infor.'

Software version labelling is divided into four parts according to the following structure:

VV.MM.XX.YY, where

VV – HW configuration – always 02 for iSmart2 W-MBUS 868MHz eMUCs, 04 for NB-IoT, 06 for NB-IoT ES

MM – legally relevant part (Metersrv) – requires MID update – MD5 checksum on the display

XX – project configuration

YY – application version



It was confirmed that the gas meters meet the requirements of the PN-EN 16314:2013-11 standard and WELMEC Guide 7.2:2022 (p. 4, 8, 9,10). The index software fulfills the basic requirements for type P, and requirements for extension: D, T and S.

### Interfaces and compatibility conditions

The gas meter's index is equipped with a communication module, enabling remote communication protocol with dedicated external devices and, through them, with AMI/AMR-type systems.

The communication module can be a W-MBUS 868 MHz eMUCs version or an LTE Narrowband IoT (NB-IoT) version.

The gas meter's index has an optical port. This interface has been designed in accordance with EN 62056-21.

### Requirements on production, putting into use and utilisation

#### Production

During production the following checks and inspections are being carried out:

- 100% inspection of incoming goods (the quantity inspection), statistical quality inspection;
- tests during production: measurement check, 100% leak test, statistical check of torque and statistical check of bending moment,
- final tests: checking internal and external tightness, marking, checking the operation of meter, calibration.

Final tests consists also of checking the permissible errors of indication and pressure absorption in accordance with paragraph A.2.1, A.2.2 of EN 1359:2017.

#### Installation, utilisation and repair

Requirements concerning installation, utilisation and repair are described in the user manual provided with the gas meter.

### Control of the measuring tasks of the instrument in use

Gas meters are subject to conformity assessment according to directive 2014/32/EU (MID). In order to make a proof of performed conformity assessment the appropriate manufacturer's symbols. Separate national legislation determine the date when gas meter should be submitted to next legalization after completion of conformity assessment.

### Security measures

Mechanical security features:

- Metrology seal located inside the index under the index cover,
- Service seals of 4pcs covering the mounting screws of the index cover.

Electronic security features:

- Sensors indicating that the index cover and metrology cover have been removed.



### Marking requirements

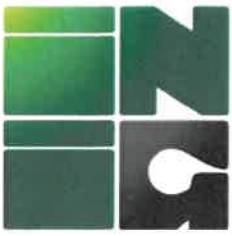
Each gas meter should bear a marking plate on index or on display or as a separate plate having at least the following information:

- a) identification mark or manufacturer's name;
- b) CE mark, additional metrology marking, identifying number of notified body
- c) accuracy class of the meter;
- d) meter's serial number and year of production;
- e) maximum flowrate  $Q_{max}$  (m<sup>3</sup>/h);
- f) minimum flowrate  $Q_{min}$  (m<sup>3</sup>/h);
- g) maximum working pressure,  $p_{max}$  (bar);
- h) nominal cyclic volume,  $V$  (dm<sup>3</sup>);
- i) number and issue year of standard of object;
- j) ambient temperature range, if higher than -10°C to 40°C;
- k) gas temperature range, if different from ambient temperature range;
- l) additional marking required by legislation, e.g. the number of type examination certificate;
- m) software version number,
- n) legally relevant software checksum.

If gas meter is resistant to high ambient temperature it should be additionally mark with „T” symbol.

If gas meter is intended to use outdoors, it should be additionally marked with the symbol H3.

Marking should be visible and permanent in normal operating conditions of gas meter.



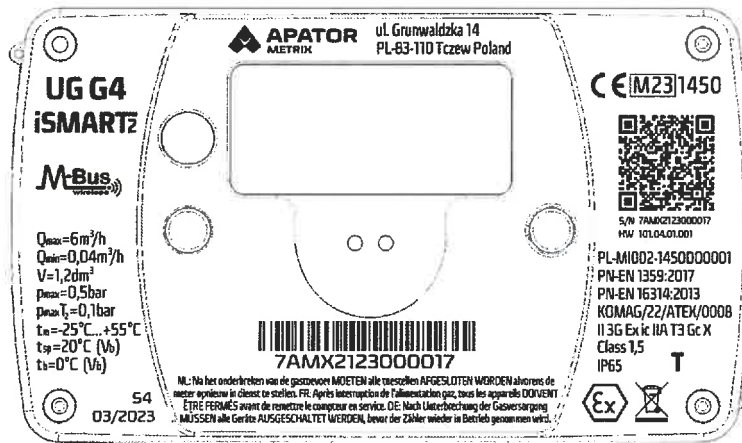
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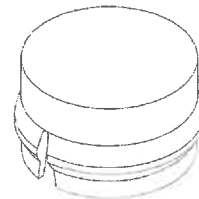
PL-MI002-1450DO0001

## Labelling and inscriptions

### Gas meter marking example



Metrology seal



Service seal

Kraków, 27-04-2026

Certification Office  
Deputy Manager

Magdalena Zaręba



Table of certificate's revisions PL-MI002-1450DO0001		
Issue No.	Description of introduces changes	Date
1	-----	13-01-2023
2	Extension of the scope of the certificate by the size of the UG G6 iSmart2 gas meter	20-02-2023
3	Certificate update: adding information on meeting the requirements of WELMEC Guide 7.2:2022 (p. 4, 8, 9, 10); WELMEC Guide 11.3:2020 and supplementing numbers of test reports, software version, legally relevant software checksum and seal designs	24-08-2023
4	Certificate update: changing the software version and legally relevant software checksum, supplementing number of laboratory test report	05-12-2023
5	Certificate update: adding an alternative communication module, software version and legally relevant software checksum, supplementing the numbers of laboratory test reports	09-10-2024
6	Extension of the scope of the certificate by the size of the UG G10 iSmart2 gas meter	29-01-2025
7	Extension of the scope of the certificate by the size of the UG G16 iSmart2 & UG G25 iSmart2 and introduction of the possibility to equip all the gas meters sizes with the temperature correction	02-10-2025
8	Extension of the scope of the certificate by the size of the UG G40 iSmart2 and UG G65 gas meter	12-11-2025
9	Extension of the scope of the certificate by the gas meters type 2UG G6 iSmart2, supplementation of the list of laboratory test reports and the new software version and checksum	23-01-2026
10	Certificate update: supplementation of the list of laboratory test reports, the new software version and checksum	27-04-2026